

BookletChartTM

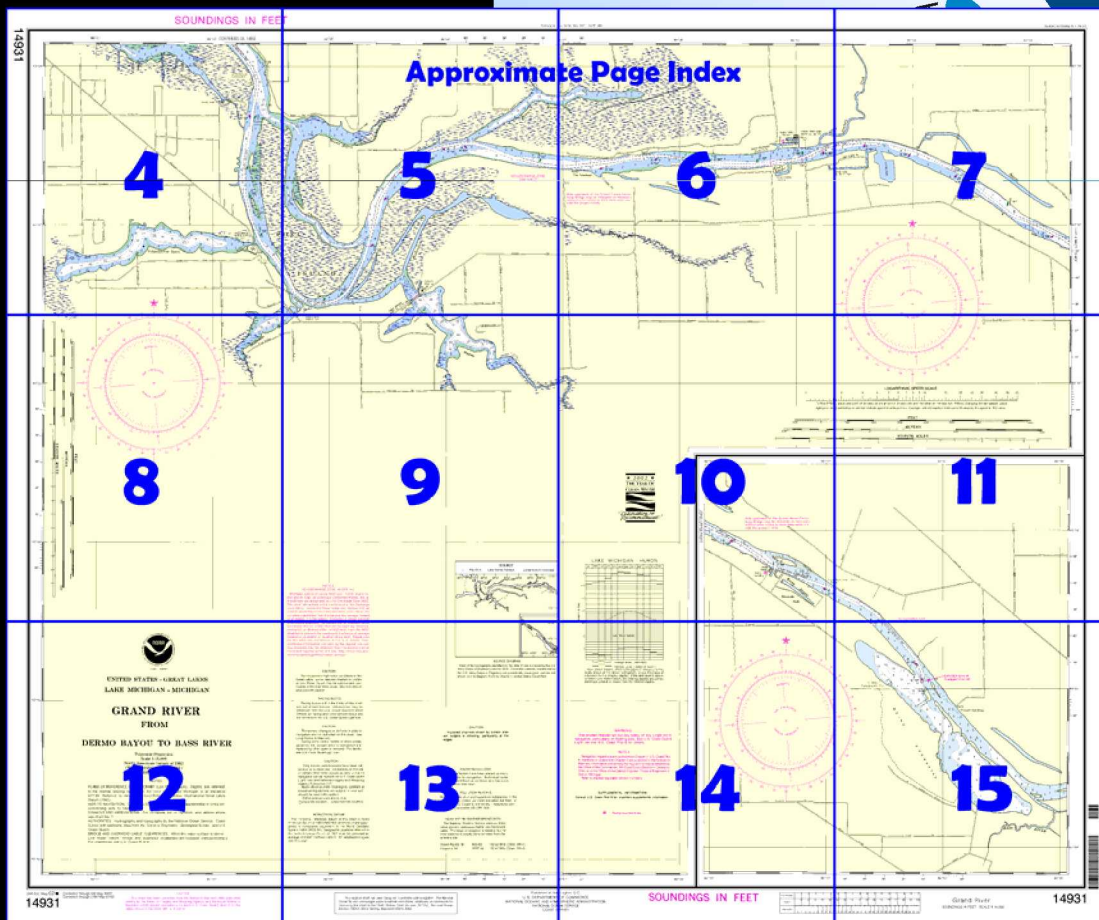
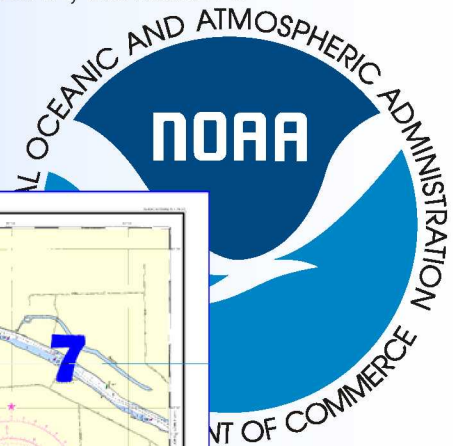
Grand River from Dermo Bayou to Bass River

(NOAA Chart 14931)



A reduced scale NOAA nautical chart for small boaters. When possible, use the full size NOAA chart for navigation.

- ✓ Complete, reduced scale nautical chart
- ✓ Print at home for free
- ✓ Convenient size
- ✓ Up to date with all Notices to Mariners
- ✓ United States Coast Pilot excerpts
- ✓ Compiled by NOAA, the nation's chartmaker.



Home Edition (not for sale)



What are Nautical Charts?

Nautical charts are a fundamental tool of marine navigation. They show water depths, obstructions, buoys, other aids to navigation, and much more. The information is shown in a way that promotes safe and efficient navigation. Chart carriage is mandatory on the commercial ships that carry America's commerce. They are also used on every Navy and Coast Guard ship, fishing and passenger vessels, and are widely carried by recreational boaters.

What is a BookletChart™?

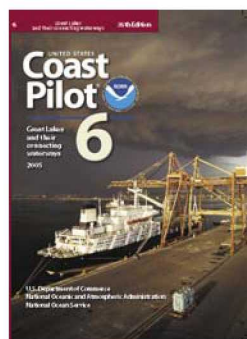
This BookletChart is made to help recreational boaters locate themselves on the water. It has been reduced in scale for convenience, but otherwise contains all the information of the full-scale nautical chart. The bar scales have also been reduced, and are accurate when used to measure distances in this BookletChart. See the Note at the bottom of page 5 for the reduction in scale applied to this chart.

Whenever possible, use the official, full scale NOAA nautical chart for navigation. Nautical chart sales agents are listed on the Internet at <http://www.NauticalCharts.NOAA.gov>.

This BookletChart does NOT fulfill chart carriage requirements for regulated commercial vessels under Titles 33 and 44 of the Code of Federal Regulations.

Notice to Mariners Correction Status

This BookletChart has been updated for chart corrections published in the U.S. Coast Guard Local Notice to Mariners, the National Geospatial Intelligence Agency Weekly Notice to Mariners, and, where applicable, the Canadian Coast Guard Notice to Mariners. Additional chart corrections have been made by NOAA in advance of their publication in a Notice to Mariners. The last Notices to Mariners applied to this chart are listed in the Note at the bottom of page 7. Coast Pilot excerpts are not being corrected.



[Coast Pilot 6, Chapter 11 excerpts]

(282) **Grand Haven, Mich.**, is a city and harbor on the **Grand River**, 43 miles S of Little Sable Point. The towns of **Ferrysburg, Mich.**, and **Spring Lake, Mich.**, front the N side of the river. These communities are not visible from Lake Michigan because of sand dunes and hills immediately N and S of the harbor entrance. The principal commodities handled in the port are coal and sand.

(283) **Grand Haven South Pierhead Entrance Light** (43°03.5'N., 86°15.4'W.), 42

feet above the water, is shown from a red fog signal building on the outer end of the S pier; a fog signal is at the light.

Channels

(284) The dredged entrance channel leads E from deep water in Lake Michigan between parallel piers at the mouth of Grand River and upstream for about 16 miles. The outer ends of the piers are marked by

lights. South Pierhead Entrance Light and an inner light on the S pier form a range useful for approaching the harbor. There is a turning basin on the S side of the channel 2.3 miles above the mouth. A side channel extends N to the deep water in Spring Lake 2.7 miles above the mouth. (285) In May-June 2007, the controlling depths were 20.7 feet in the entrance and between the piers to about 0.5 mile above the mouth, thence 15.3 feet (21 feet at midchannel) to about 1.4 miles above the mouth (except for shoaling to 7 feet along the W edge of the channel opposite the municipal marina and to 5.7 feet in the E side of the channel along the waterfront of the municipal marina), thence 18.1 feet in the left half and 7.5 feet in the right half of the channel to the railroad bridge at Ferrysburg; the turning basin had depths of 6 to 10 feet.

(286) In 1978-1980, the controlling depth was 12 feet from the railroad bridge to Spring Lake. In October-November 2007, the controlling depth was 3.9 feet from the Spring Lake Channel near Lighted Buoy 14, upstream about 11.5 miles to Buoy 66; thence in 1997, 4 feet to the head of the project near the C-Way Construction Company. The channel limits from Ferrysburg to the head of the project are well marked by buoys; the channels are subject to shoaling.

(287) Large riprap stones have been placed along the lakesides and ends of the piers, and navigation should not be attempted close to these structures. Mooring to the piers or revetments is prohibited.

(288) The Grand River is not maintained above the junction with Bass River. Conditions are unknown, but depths probably do not exceed 2 to 3 feet at extreme low water for 23.5 miles upstream to Grand Rapids. Only small recreational craft navigate this section of the river.

(292) High-water periods on the Grand River are usually for two months during the spring. During these periods, currents may reach 3 to 5 mph. Currents up to 5 mph should be expected after periods of heavy precipitation, regardless of season.

Table of Selected Chart Notes

Pump-out facilities

Corrected through NM May 18/02
Corrected through LNM May 07/02

CAUTION

Improved channels shown by broken lines are subject to shoaling, particularly at the edges.

RADAR REFLECTORS

Radar reflectors have been placed on many floating aids to navigation. Individual radar reflector identification on these aids has been omitted from this chart.

CAUTION

Temporary changes or defects in aids to navigation are not indicated on this chart. See Local Notice to Mariners.

During some winter months or when endangered by ice, certain aids to navigation are replaced by other types or removed. For details see U.S. Coast Guard Light List.

CAUTION

Only marine radiobeacons have been calibrated for surface use. Limitations on the use of certain other radio signals as aids to marine navigation can be found in the U.S. Coast Guard Light Lists and National Imagery and Mapping Agency Publication 117.

Radio direction-finder bearings to commercial broadcasting stations are subject to error and should be used with caution.

Station positions are shown thus:

○ (Accurate location) ◐ (Approximate location)

RACING BUOYS

Racing buoys within the limits of this chart are not shown hereon. Information may be obtained from the U.S. Coast Guard District Offices as racing and other private buoys are not all listed in the U.S. Coast Guard Light List.

CAUTION

Due to periodic high water conditions in the Great Lakes, some features charted as visible at Low Water Datum may be submerged, particularly in the near shore areas. Mariners should proceed with caution.



Average levels (1992-2001)

Extreme Levels (period of record)

Low Water Datum, which is the plane of reference for the levels shown on the above hydrograph, is also the plane of reference for the charted depths. If the lake level is above or below Low Water Datum, the existing depths are correspondingly greater or lesser than the charted depths.

POLLUTION REPORTS

Report all spills of oil and hazardous substances to the National Response Center via 1-800-424-8802 (toll free), or to the nearest U.S. Coast Guard facility if telephone communication is impossible (33 CFR 153).

HORIZONTAL DATUM

The horizontal reference datum of this chart is North American Datum of 1983 (NAD 83), which for charting purposes is considered equivalent to the World Geodetic System 1984 (WGS 84). Geographic positions referred to the North American Datum of 1927 must be corrected an average of 0.064" northward and 0.191" westward to agree with this chart.

NOAA VHF-FM WEATHER BROADCASTS

The National Weather Service stations listed below provide continuous marine weather broadcasts. The range of reception is variable, but for most stations is usually 20 to 40 miles from the antenna site.

Grand Rapids, MI	KIG-63	162.55 MHz (Chan. WX-1)
Hesperia, MI	WWF-36	162.47 MHz (Chan. WX-3)

NOTE Z

NO-DISCHARGE ZONE, 40 CFR 140

Michigan waters of Lakes Michigan, Huron, Superior, Erie and St. Clair, all waterways connected thereto, and all inland lakes are designated as a No-Discharge Zone (NDZ). This chart falls entirely within the limits of a No-Discharge Zone (NDZ). Under the Clean Water Act, Section 312, all vessels operating within a No-Discharge Zone (NDZ) are completely prohibited from discharging any sewage, treated or untreated, into the waters. Commercial vessel sewage shall include graywater. All vessels with an installed marine sanitation device (MSD) that are navigating, moored, anchored, or docked within a NDZ must have the MSD disabled to prevent the overboard discharge of sewage (treated or untreated) or install a holding tank. Regulations for the NDZ are contained in the U.S. Coast Pilot. Additional information concerning the regulations and requirements may be obtained from the Environmental Protection Agency (EPA) web site: http://www.epa.gov/owow/oceans/regulatory/vessel_sewage/.

NOTE A

Navigation regulations are published in Chapter 2, U.S. Coast Pilot 6. Additions or revisions to Chapter 2 are published in the Notices to Mariners. Information concerning the regulations may be obtained at the Office of the Commander, 9th Coast Guard District in Cleveland, Ohio, or at the Office of the District Engineer, Corps of Engineers in Detroit, Michigan.

Refer to charted regulation section numbers.

WARNING

The prudent mariner will not rely solely on any single aid to navigation, particularly on floating aids. See U.S. Coast Guard Light List and U.S. Coast Pilot 6 for details.

SOURCE DIAGRAM

Most of the hydrography identified by the letter "J" was surveyed by the U.S. Army Corps of Engineers prior to 1974. Channels currently maintained by the U.S. Army Corps of Engineers are periodically resurveyed and are not shown on this diagram. Refer to Chapter 1, [United States Coast Pilot](#).

CAUTION

This chart has been corrected from the Notice to Mariners (NM) published weekly by the National Imagery and Mapping Agency and the Local Notice to Mariners (LNM) issued periodically by each U.S. Coast Guard district to the dates shown in the lower left hand corner.

This nautical chart has been designed to promote safe navigation. The National Ocean Service encourages users to submit corrections, additions, or comments for improving this chart to the Chief, Marine Chart Division (N/CS2), National Ocean Service, NOAA, Silver Spring, Maryland 20910-3282.

AIDS TO NAVIGATION. Consult U.S. Coast Light List for supplemental information concerning aids to navigation.

SYMBOLS AND ABBREVIATIONS. For complete list of symbols and abbreviations see chart No. 1.

NOTES

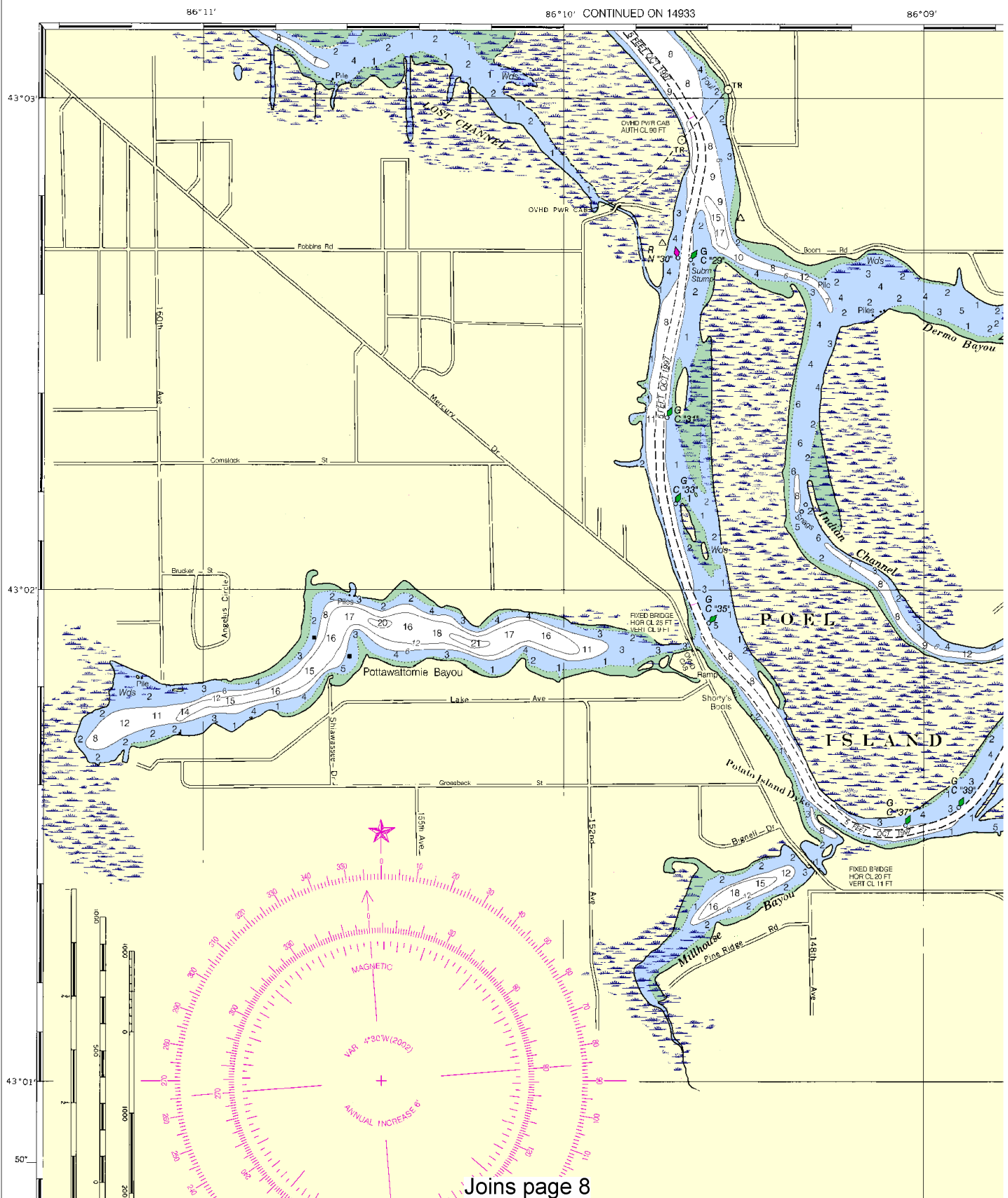
PLANE OF REFERENCE OF THIS CHART (Low Water Datum). Depths are referred to the normal sloping surface of the river when Lake Michigan is at elevation 577.5ft. Referred to mean water level Rimouski, Quebec, International Great Lakes Datum (1985).

AUTHORITIES. Hydrography and topography by the National Ocean Service, Coast Survey with additional data from the Corps of Engineers, Geological Survey, and U.S. Coast Guard.

BRIDGE AND OVERHEAD CABLE CLEARANCES. When the water surface is above Low Water Datum, bridge and overhead clearances are reduced correspondingly. For clearances see U.S. Coast Pilot 6.

SOUNDINGS IN FEET

14931



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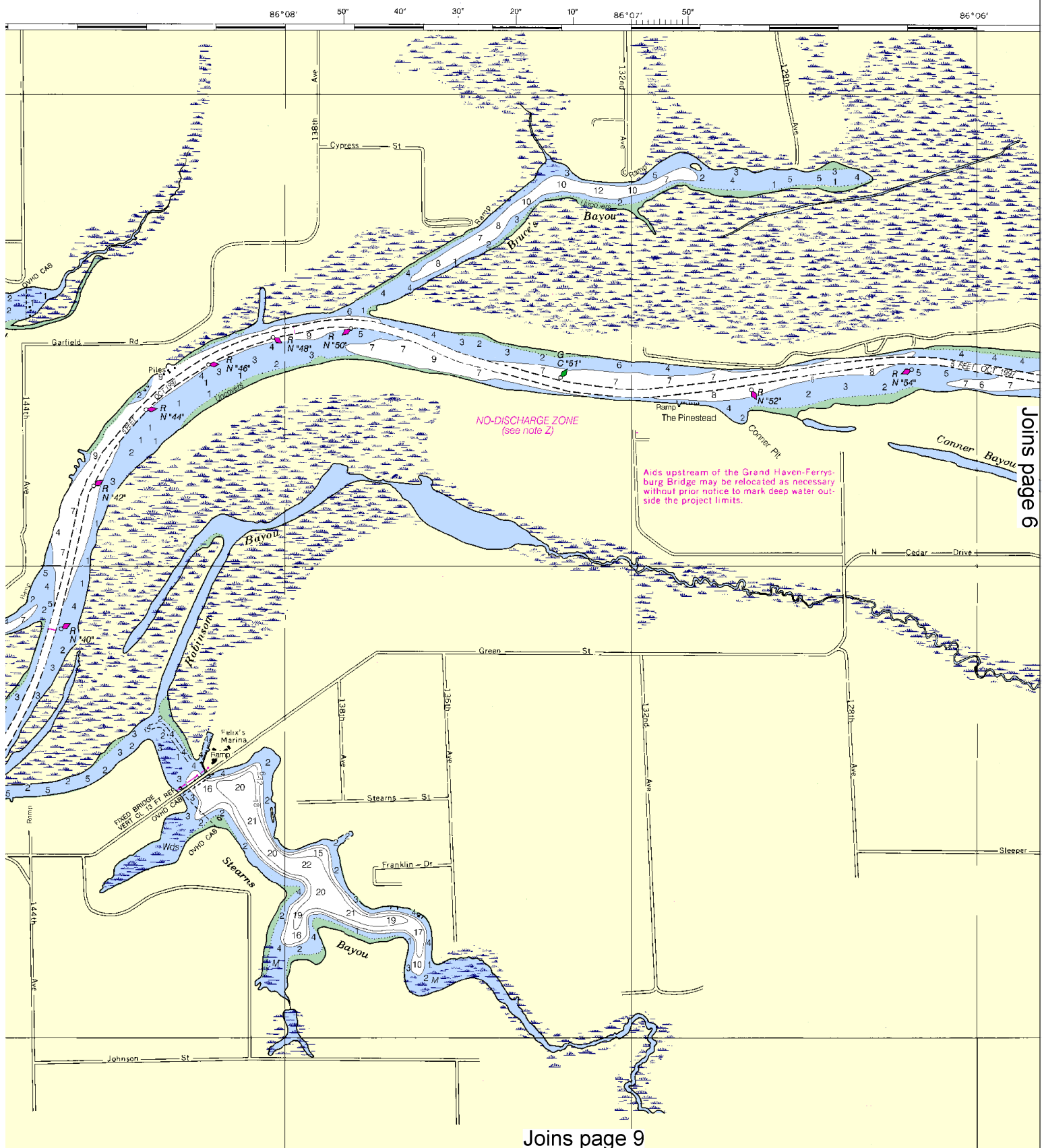


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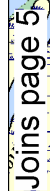
SCALE 1:15,000
Nautical Miles

See Note on page 5.

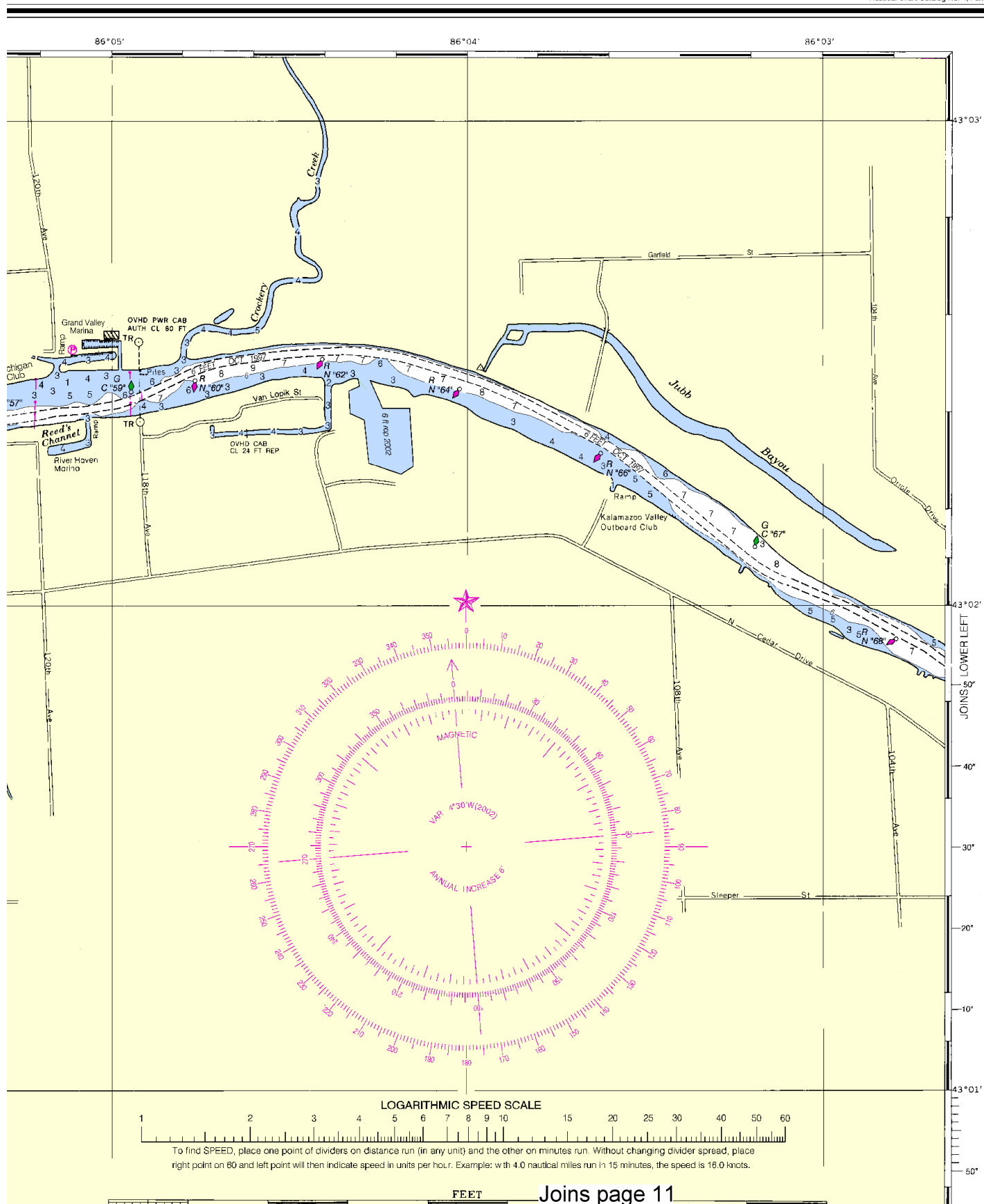
Yards
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This BookletChart was reduced to 75% of the original chart scale.
 The new scale is 1:20000. Barscales have also been reduced and
 are accurate when used to measure distances in this BookletChart.



~~SCALE 1:15,000~~
Nautical Miles

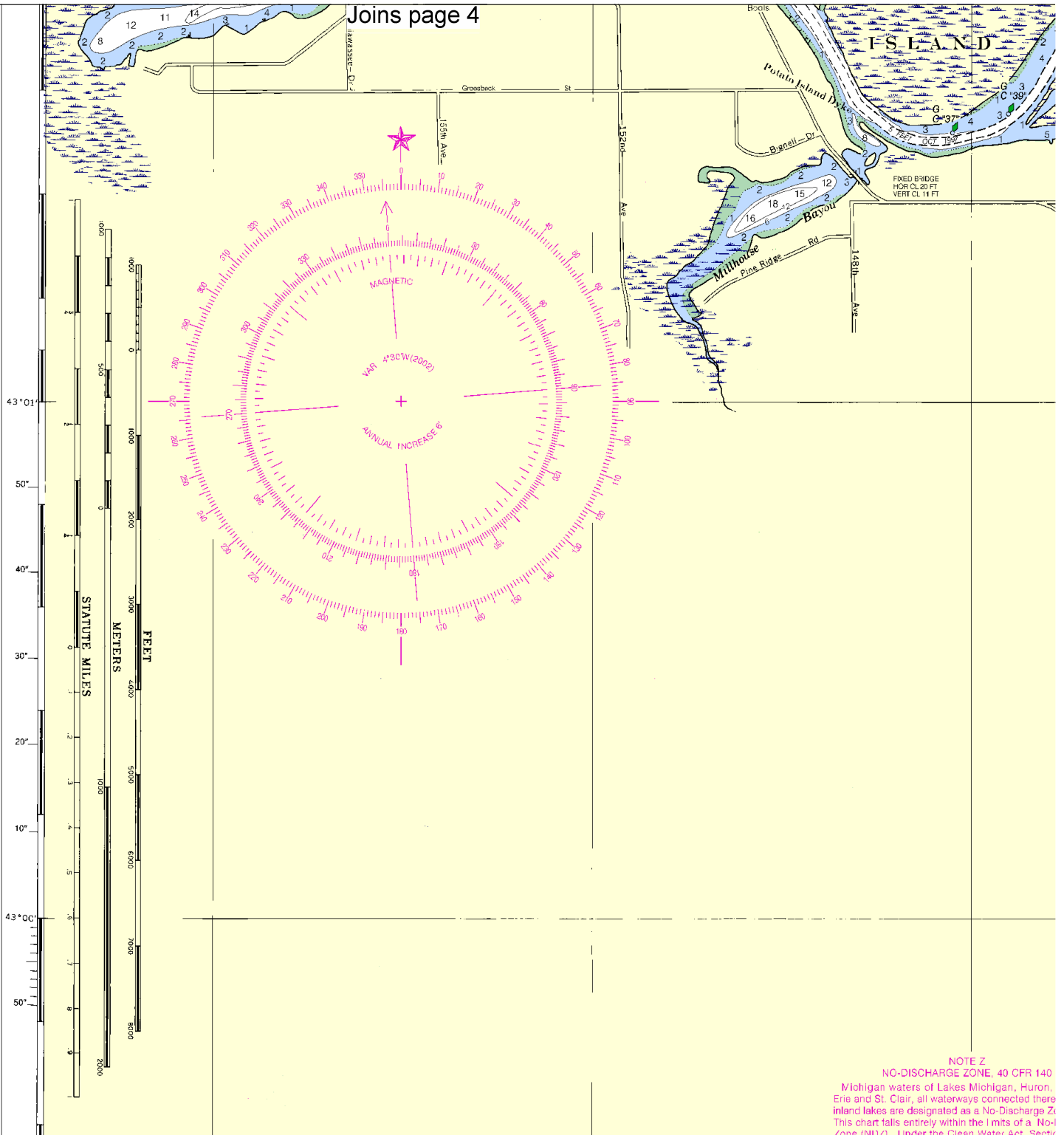


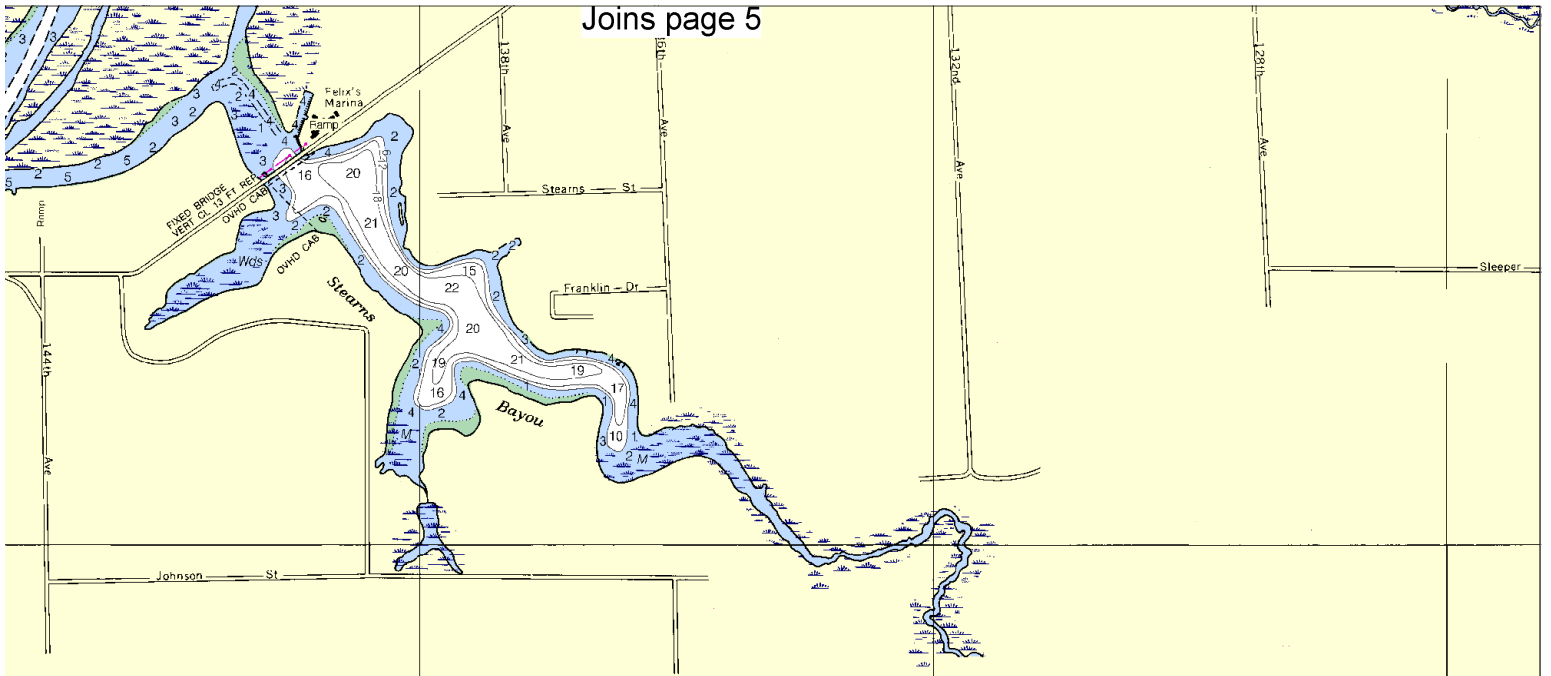
Joins page 11

This BookletChart has been updated with: Coast Guard Local Notice To Mariners: 0710 2/16/2010,
 NGA Weekly Notice to Mariners: 0910 2/27/2010,
 Canadian Coast Guard Notice to Mariners: 0110 1/29/2010.

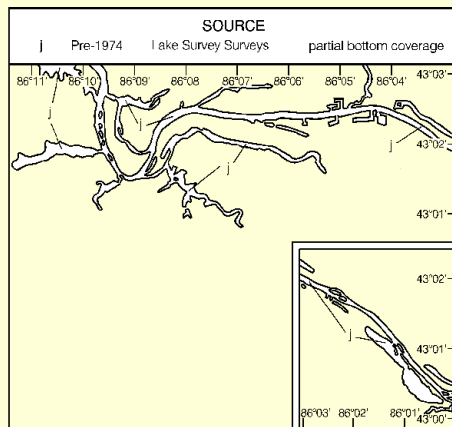
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Joins page 4





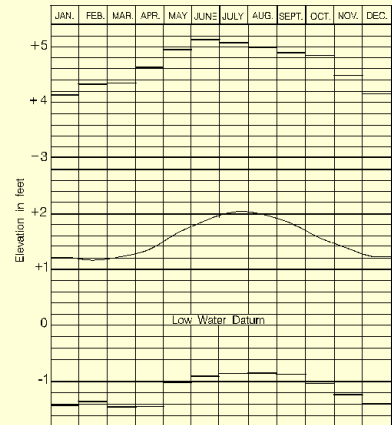
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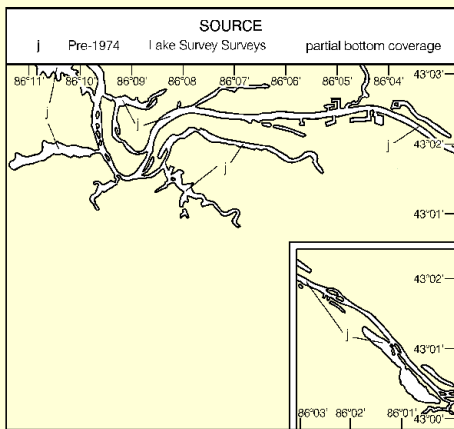
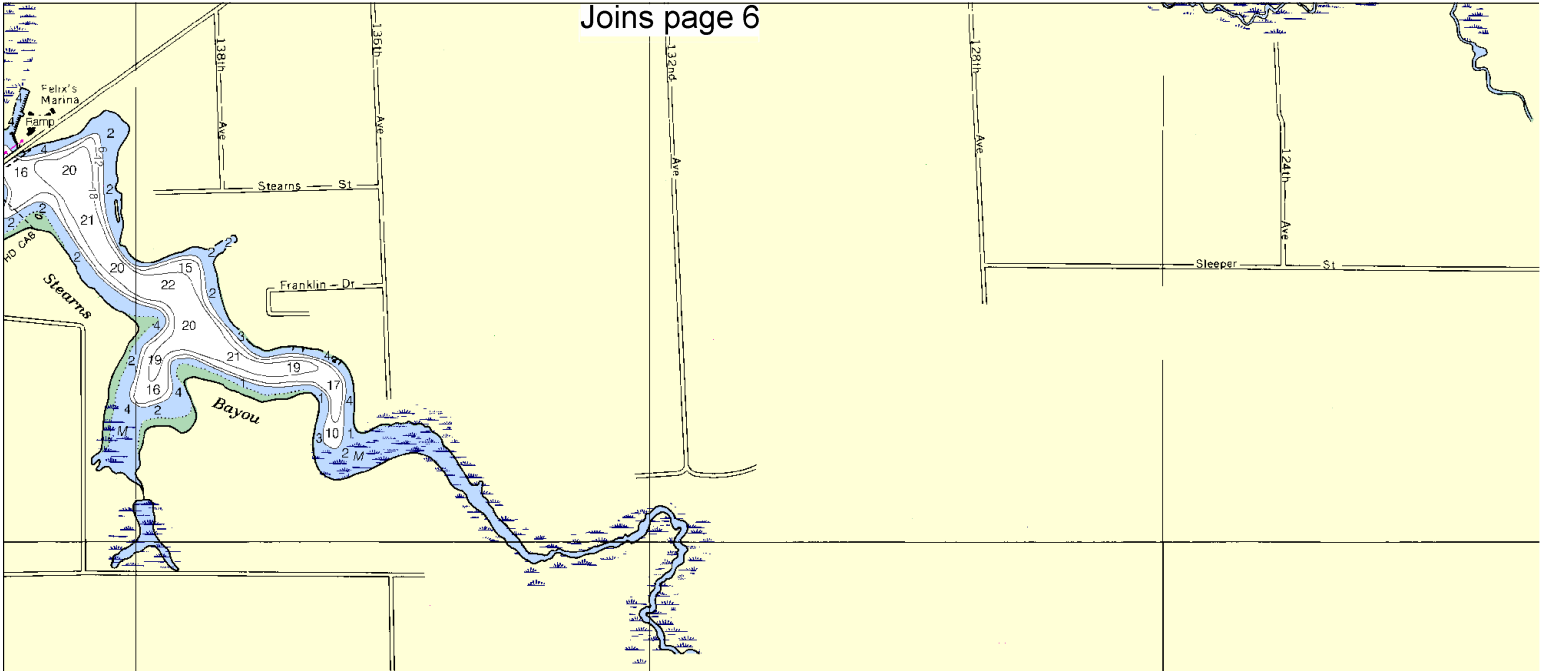
SOURCE DIAGRAM

Most of the hydrography identified by the letter "I" was surveyed by the U.S. Army Corps of Engineers prior to 1974. Channels cut by the U.S. Army Corps of Engineers are periodically re-

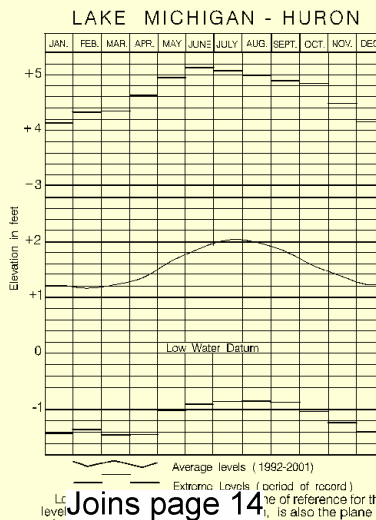
LAKE MICHIGAN - HURON



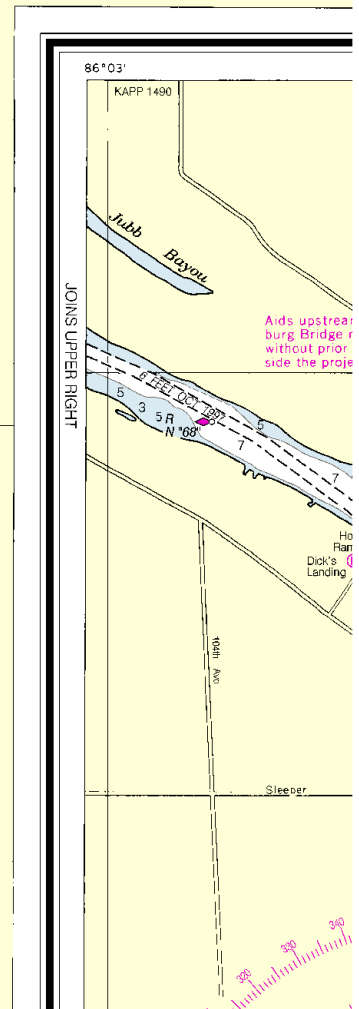
Low Water Datum, which is the plane of reference for the levels shown on the above hydrograph, is also the plane of



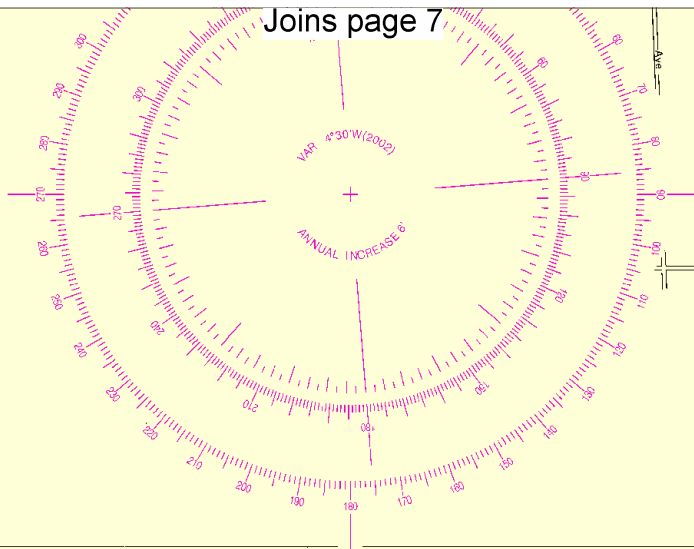
Most of the hydrography identified by the letter "i" was surveyed by the U.S. Army Corps of Engineers prior to 1974. Channels currently maintained by the U.S. Army Corps of Engineers are periodically resurveyed, and are not



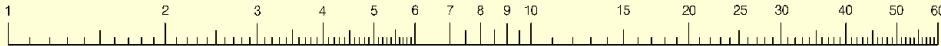
Joins page 14



Joins page 7

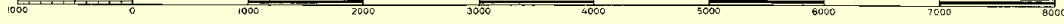


LOGARITHMIC SPEED SCALE

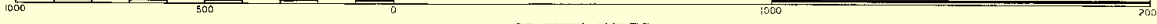


To find SPEED, place one point of dividers on distance run (in any unit) and the other on minutes run. Without changing divider spread, place right point on 60 and left point will then indicate speed in units per hour. Example: with 4.0 nautical miles run in 15 minutes, the speed is 16.0 knots.

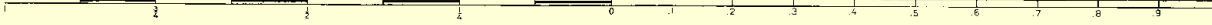
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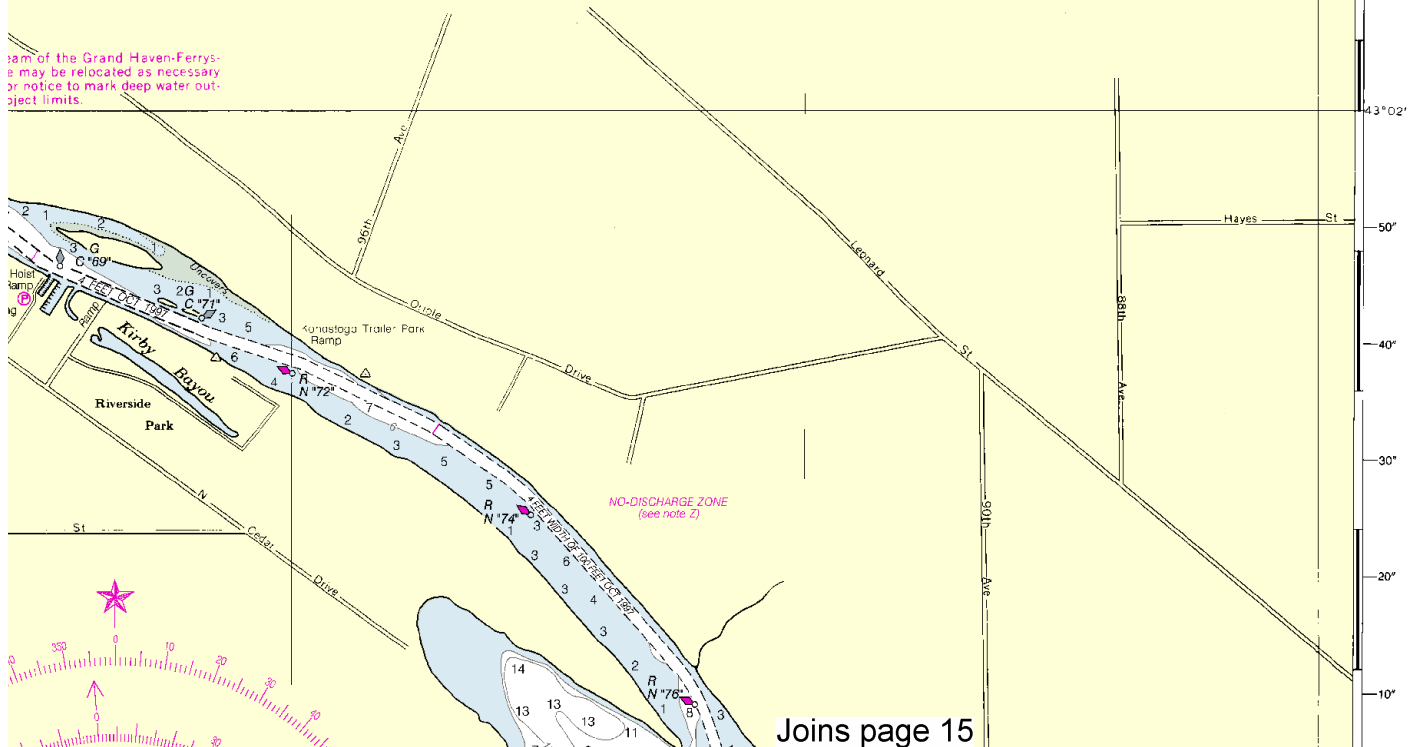
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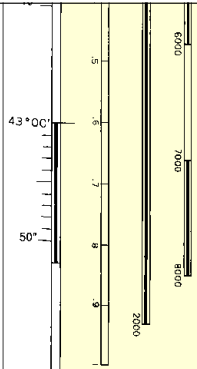
STATUTE MILES



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or notice to mark deep water out-
ject limits.



Joins page 15



UNITED STATES - GREAT LAKES
LAKE MICHIGAN - MICHIGAN

GRAND RIVER
FROM
DERMO BAYOU TO BASS RIVER

Polyconic Projection
Scale 1:15,000
North American Datum of 1983
(World Geodetic System 1984)
SOUNDINGS IN FEET

NOTES

PLANE OF REFERENCE OF THIS CHART (Low Water Datum). Depths are referred to the normal sloping surface of the river when Lake Michigan is at elevation 577.5 ft. Referred to mean water level Rimouski, Quebec, International Great Lakes Datum (1985).

AIDS TO NAVIGATION. Consult U.S. Coast Light List for supplemental information concerning aids to navigation.

SYMBOLS AND ABBREVIATIONS. For complete list of symbols and abbreviations see chart No. 1.

AUTHORITIES. Hydrography and topography by the National Ocean Service, Coast Survey with additional data from the Corps of Engineers, Geological Survey, and U.S. Coast Guard.

BRIDGE AND OVERHEAD CABLE CLEARANCES. When the water surface is above Low Water Datum, bridge and overhead clearances are reduced correspondingly. For clearances see U.S. Coast Pilot 6.

NOTE Z

NO-DISCHARGE ZONE, 40 CFR 140

Michigan waters of Lakes Michigan, Huron, Erie and St. Clair, all waterways connected there inland lakes are designated as a No-Discharge Zone (NDZ). Under the Clean Water Act, Section 311, vessels operating within a No-Discharge Zone are completely prohibited from discharging any sewage or untreated, into the waters. Commercial vessels shall include graywater. All vessels with an installed sanitation device (MSD) that are navigating, anchored, or docked within a NDZ must have disabled to prevent the overboard discharge of (treated or untreated) or install a holding tank. For the NDZ are contained in the U.S. Coast Guard's Additional Information concerning the regulatory requirements may be obtained from the Environmental Protection Agency (EPA) web site: http://www.epa.gov/oceans/regulatory/vessel_sewage/.

CAUTION

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RACING BUOYS

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CAUTION

Only marine radiobeacons have been substituted for surface use. Limitations on the use of certain other radio signals as aids to navigation can be found in the U.S. Coast Guard Light Lists and National Imagery and Mapping Agency Publication 117.

Radio direction-finder bearings to commercial broadcasting stations are subject to error and should be used with caution.

Station positions are shown thus:
⊙ (Accurate location) ○ (Approximate location)

HORIZONTAL DATUM

The horizontal reference datum of this chart is the North American Datum of 1983 (NAD 83), which for chart purposes is considered equivalent to the World Geodetic System 1984 (WGS 84). Geographic positions relative to the North American Datum of 1927 must be corrected by an average of 0.064" northward and 0.191" westward with this chart.

24th Ed., May/02 ■ Corrected through NM May 18/02
Corrected through LNM May 07/02

14931

CAUTION

This chart has been corrected from the Notice to Mariners (NM) published weekly by the National Imagery and Mapping Agency and the Local Notice to Mariners (LNM) issued periodically by each U.S. Coast Guard district; to the dates shown in the lower left hand corner.

This notice is for informational purposes only. It does not constitute a service, nor does it constitute a commitment by the National Ocean Service, NOAA.

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Printed at reduced scale.

SCALE 1:15,000
Nautical Miles

See Note on page 5.



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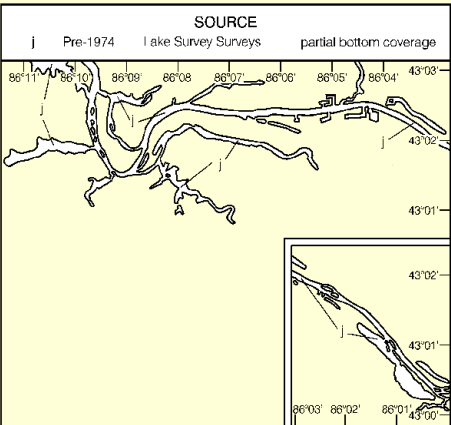
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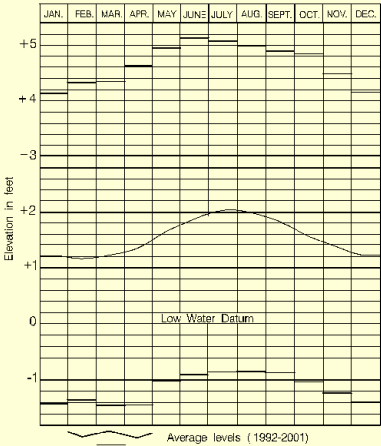
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SOURCE DIAGRAM

Most of the hydrography identified by the letter "j" was surveyed by the U.S. Army Corps of Engineers prior to 1974. Channels currently maintained by the U.S. Army Corps of Engineers are periodically resurveyed and are not shown on this diagram. Refer to Chapter 1, United States Coast Pilot.

LAKE MICHIGAN - HURON



Low Water Datum, which is the plane of reference for the levels shown on the above hydrograph, is also the plane of reference for the charted depths. If the lake level is above or below Low Water Datum, the existing depths are correspondingly greater or lesser than the charted depths.

CAUTION

Improved channels shown by broken lines are subject to shoaling, particularly at the edges.

RADAR REFLECTORS

Radar reflectors have been placed on many floating aids to navigation. Individual radar reflector identification on these aids has been omitted from this chart.

POLLUTION REPORTS

Report all spills of oil and hazardous substances to the National Response Center via 1-800-424-8802 (toll free), or to the nearest U.S. Coast Guard facility if telephone communication is impossible (33 CFR 153).

NOAA VHF-FM WEATHER BROADCASTS

The National Weather Service stations listed below provide continuous marine weather broadcasts. The range of reception is variable, but for most stations is usually 20 to 40 miles from the antenna site.

Grand Rapids, MI KIG-63 162.55 MHz (Chan. WX-1)
Hesperia, MI WWF-36 162.47 MHz (Chan. WX-3)

WARNING

The prudent mariner will not rely solely on any single aid to navigation, particularly on floating aids. See U.S. Coast Guard Light List and U.S. Coast Pilot 6 for details.

NOTE A

Navigation regulations are published in Chapter 2, U.S. Coast Pilot 6. Additions or revisions to Chapter 2 are published in the Notices to Mariners. Information concerning the regulations may be obtained at the Office of the Commander, 9th Coast Guard District in Cleveland, Ohio, or at the Office of the District Engineer, Corps of Engineers in Detroit, Michigan.

Refer to charted regulation section numbers.

SUPPLEMENTAL INFORMATION

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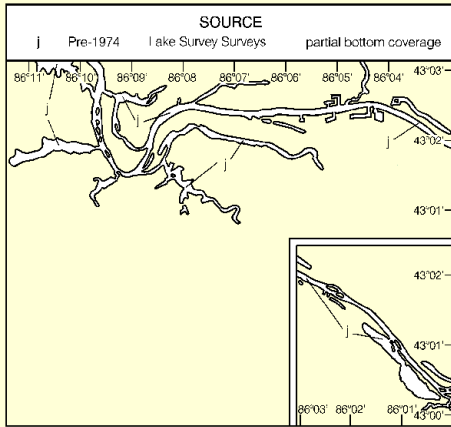
P Pump-out facilities

86°08' 50' 40' 30' 20' 10' 86°07' 50' 86°06'

autical chart has been designed to promote safe navigation. The National Service encourages users to submit corrections, additions, or comments for this chart to the Chief, Marine Chart Division (N/CS2), National Oceanic and Atmospheric Administration, Silver Spring, Maryland 20910-3282.

Published at Washington, D.C.
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE
COAST SURVEY

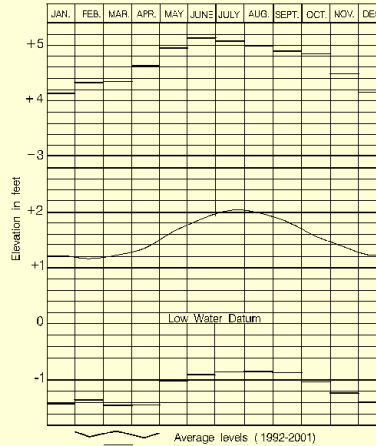
SOUNDING



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WARNING

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NOTE A

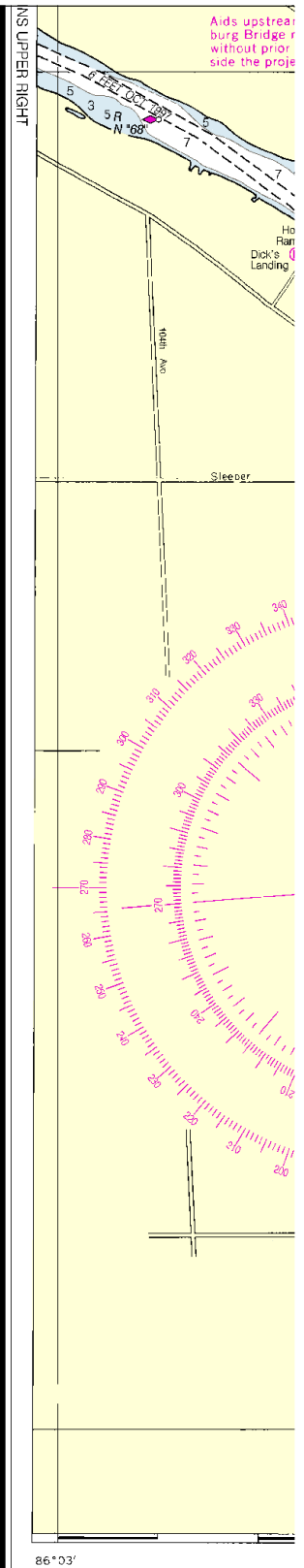
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Refer to charted regulation section numbers.

SUPPLEMENTAL INFORMATION

Consult U.S. Coast Pilot 6 for important supplemental information.

Ⓟ Pump-out facilities



for navigation. The National Ocean Service (NOS), National Ocean

Published at Washington, D.C.
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE
COAST SURVEY

SOUNDINGS IN FEET



Printed at reduced scale.

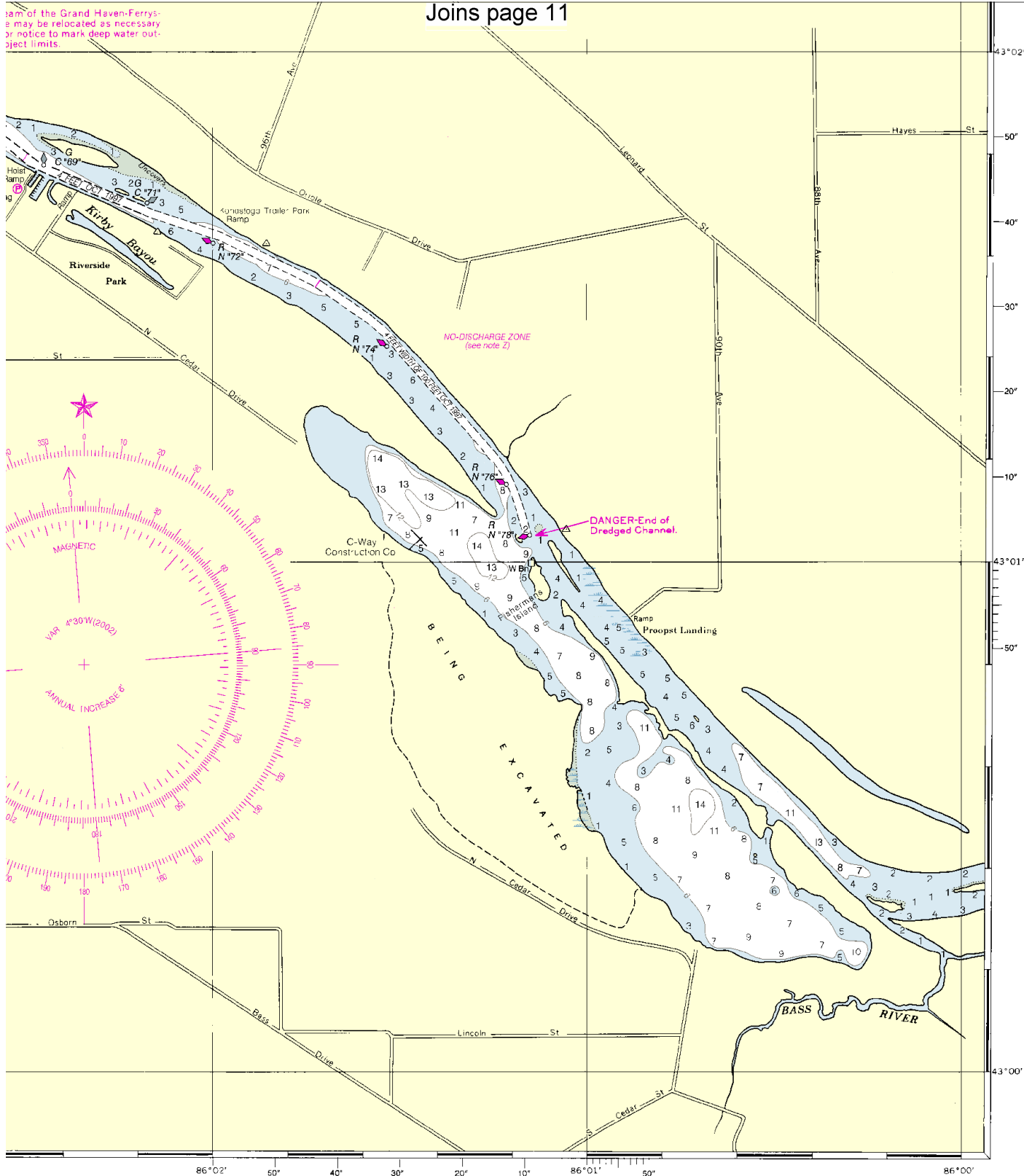
SCALE 1:15,000
Nautical Miles

See Note on page 5.

Yards
500 0 500 1000 1500

Item of the Grand Haven-Ferrys-
e may be relocated as necessary
or notice to mark deep water out-
ject limits.

Joins page 11



FATHOMS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
FEET	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102
METERS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

Grand River
SOUNDINGS IN FEET - SCALE 1:15,000

14931



ED. NO. 24



NSN 7642014627125

NIMA REFERENCE NO. 14XHA14931

EMERGENCY INFORMATION

VHF Marine Radio channels for use on the waterways:

Channel 6 – Inter-ship safety communications.

Channel 9 – Communications between boats and ship-to-coast.

Channel 13 – Navigation purposes at bridges, locks, and harbors.

Channel 16 – Emergency, distress and safety calls to Coast Guard and others, and to initiate calls to other vessels. Contact the other vessel, agree to another channel, and then switch.

Channel 22A – Calls between the Coast Guard and the public. Severe weather warnings, hazards to navigation and safety warnings are broadcast here.

Channels 68, 69, 71, 72 & 78A – Recreational boat channels.

Distress Call Procedures

1. Make sure radio is on.
2. Select Channel 16.
3. Press/Hold the transmit button.
4. Clearly say: "MAYDAY, MAYDAY, MAYDAY."
5. Also give: Vessel Name and/or Description; Position and/or Location; Nature of Emergency; Number of People on Board.
6. Release transmit button.
7. Wait for 10 seconds – If no response Repeat MAYDAY Call.

HAVE ALL PERSONS PUT ON LIFE JACKETS !!

Mobile Phones – Call 911 for water rescue.

Coast Guard Search & Rescue (RCC) – 216-902-6117

Coast Guard S & R (Sector Great Lakes) – 616-850-2501

NOAA Weather Radio – 162.400 MHz, 162.425 MHz, 162.450 MHz, 162.475 MHz, 162.500 MHz, 162.525 MHz, 162.550 MHz.

Getting and Giving Help – Signal other boaters using visual distress signals (flares, orange flag, lights, arm signals); whistles; horns; and on your VHF radio. You are required by law to help boaters in trouble. Respond to distress signals, but do not endanger yourself.



NOAA CHARTING PUBLICATIONS

Official NOAA Nautical Charts – NOAA surveys and charts the national and territorial waters of the U.S, including the Great Lakes. We produce over 1,000 traditional nautical charts covering 3.4 million square nautical miles. Carriage of official NOAA charts is mandatory on the commercial ships that carry our commerce. They are used on every Navy and Coast Guard ship, fishing and passenger vessels, and are widely carried by recreational boaters. NOAA charts are available from official chart agents listed at: www.NauticalCharts.NOAA.gov.

Official Print-on-Demand Nautical Charts – These full-scale NOAA charts are updated weekly by NOAA for all Notice to Mariner corrections. They have additional information added in the margin to supplement the chart. Print-on-Demand charts meet all federal chart carriage regulations for charts and updating. Produced under a public/private partnership between NOAA and OceanGrafix, LLC, suppliers of these premium charts are listed at www.OceanGrafix.com.

Official Electronic Navigational Charts (NOAA ENC[®]) – ENCs are digital files of each chart's features and their attributes for use in computer-based navigation systems. ENCs comply with standards of the International Hydrographic Organization. ENCs and their updates are available for free from NOAA at www.NauticalCharts.NOAA.gov.

Official Raster Navigational Charts (NOAA RNC[™]) – RNCs are geo-referenced digital pictures of NOAA's charts that are suitable for use in computer-based navigation systems. RNCs comply with standards of the International Hydrographic Organization. RNCs and their updates are available for free from NOAA at www.NauticalCharts.NOAA.gov.

Official BookletCharts[™] – BookletCharts[™] are reduced scale NOAA charts organized in page-sized pieces. The "Home Edition" can be downloaded from NOAA for free and printed. The Internet address is www.NauticalCharts.gov/bookletcharts.

Official PocketCharts[™] – PocketCharts[™] are for beginning recreational boaters to use for planning and locating, but not for real navigation. Measuring a convenient 13" by 19", they have a 1/3 scale chart on one side, and safety, boating, and educational information on the reverse. They can be purchased at retail outlets and on the Internet.

Official U.S. Coast Pilot[®] – The Coast Pilots are 9 text volumes containing information important to navigators such as channel descriptions, port facilities, anchorages, bridge and cable clearances, currents, prominent features, weather, dangers, and Federal Regulations. They supplement the charts and are available from NOAA chart agents or may be downloaded for free at www.NauticalCharts.NOAA.gov.

Official On-Line Chart Viewer – All NOAA nautical charts are viewable here on-line using any Internet browser. Each chart is up-to-date with the most recent Notices to Mariners. Use these on-line charts as a ready reference or planning tool. The Internet address is www.NauticalCharts.gov/viewer.

Official Nautical Chart Catalogs – Large format, regional catalogs are available for free from official chart agents. Page size, state catalogs are posted on the Internet and can be printed at home for free. Go to <http://NauticalCharts.NOAA.gov/mcd/ccatalogs.htm>.

Internet Sites: www.NauticalCharts.NOAA.gov, www.NOAA.gov, www.TidesandCurrents.NOAA.gov, www.NOS.NOAA.gov.